

REMARKS

Claims 1-3 and 5-14 are pending and under consideration. No new matter is presented in this Amendment.

REJECTIONS UNDER 35 U.S.C. §103:

In the Office Action on pages 2-4, the Examiner rejects claims 1-3 and 6-7 under 35 U.S.C. §103(a) as being unpatentable over Nomura et al, "Super-resolution read only memory disk with metal nanoparticles or small aperture," Japanese Journal of Applied Physics Part 1, Volume 41 (3B), March 2002 (pp. 1876-1879), (hereafter Nomura I) in view of Nomura et al (Japanese Patent 2002-133720) (hereafter Nomura II). The Applicant respectfully traverses this rejection and requests reconsideration of the claims for at least the following reasons.

On page 2 of the Advisory Action, the Examiner asserts that the applicants arguments address the references individually and does not address the rejection as a combination. It is respectfully submitted that the arguments contained in the Amendment After Final Rejection address a lack of evidence of why the combination should be made based upon the individual teachings in each reference as well as a defect in the combined teachings.

Specifically, Nomura I does not disclose a high-density readable only optical disk, comprising: a substrate with pits; and at least one mask layer with a super resolution near field structure, the at least one mask layer comprising a mixture of a dielectric material and metal particles wherein the metal particles are derived from gold, platinum, rhodium, palladium, or a mixture thereof. Instead, Nomura I discloses a polycarbonate substrate with a pit depth of 50 nm having a reflective layer, a granular film of a mixture of ultrafine particles embedded in an insulating matrix, a dielectric layer, and a UV resin layered thereon (sections 2.1, 2.3 and Fig. 5). The granular film is Ag nanoparticles in a SiO₂ matrix.

In addition, Nomura II discloses a rewritable optical recording medium (para. [0001] and [0007]) comprising a recording layer of amorphous record marks (e.g., para. [0006], [0007] and [0010]). Referring to paragraphs [0006] through [0013] and Figures 1 and 2, Nomura II discloses a substrate having a mask layer 14, a first dielectric film 4, a record film 6, a second dielectric film 8, a reflective film 10, and a protective coat 12 layered thereon. Only the reflective film 10 is disclosed as comprising metal particles in a dielectric, "said reflective film is an optical recording medium characterized by consisting of film which comes to distribute a metal particle in a dielectric" (para. [0006]). In contrast, the mask layer 14 "consists of organic coloring matter

from which light transmittance changes the temperature" (para. [0013]). That is, as the temperature of the mask layer 14 rises due to light irradiated to the mask layer 14, the mask layer 14 transmits more of the light (para. [0009]). Thus, neither Nomura I nor Nomura II suggest using a combination of a dielectric material and metal particles in the mask layer for the read only disc such that the combination as a whole does not combine to meet the features of claim 1.

Claims 2-3 and 5-7 are deemed patentable due at least to their depending from claim 1.

Additionally, the Examiner has failed to provide a motivation to combine the individual elements from the prior art in a manner meeting the features of the claims. By way of review, Nomura I discloses a read only memory (ROM) disk medium (referring to, for example, Title, Abstract, and sections 1, 2.3, 3 and 4). Nomura I discloses reading pits on a read only disk (section 2.3). Nomura I does not disclose reading amorphous marks on a rewritable optical recording medium. In contrast Nomura II discloses a rewritable optical recording medium (para. [0001] and [0007]) (RW disk). The RW disk of Nomura II records data by melting the crystalline record film such that on rapid solidification the record film that was melted solidifies as an amorphous structure (para. [0006] and [0009]). This crystal-amorphous change (phase change) is disclosed as reversible (para. [0009]) to allow erasure of data and re-recording data. Nomura II discloses using the reflective film 10 to record and read amorphous marks.

There is no disclosure of reading pits in Nomura II. Since Nomura I and Nomura II were contemporaneously written by the same authors, the fact that the authors deliberately omitted mentioning the method of reading amorphous marks on RW disks in Nomura I and omitted mentioning reading pits on ROM disks in Nomura II, is evidence that it was not obvious to one of skill in the art at the time of invention of the instant claimed subject matter to combine Nomura I and Nomura II to read pits in a ROM disk. As such, it is respectfully submitted that there is insufficient evidence to maintain the obviousness rejection, and it is respectfully requested that the rejection be reconsidered and withdrawn.

Based on the foregoing, this rejection is respectfully requested to be withdrawn.

The Examiner rejects claims 1-3 and 5-7 under 35 U.S.C. §103(a) as being unpatentable over Nomura I in view of Nomura II, and Ashida et al (Japanese Patent 11-213447) (hereafter, Ashida), Yuzusu et al (Japanese Patent 10-106027) (hereafter, Yuzusu) or Naruse et al (Japanese Patent 06-295471) (hereafter, Naruse). This rejection is respectfully traversed for at least the following reasons.

Similarly, it is respectfully submitted that the arguments contained in the Amendment After Final Rejection address a lack of evidence of why the combination should be made based upon the individual teachings in each reference as well as a defect in the combined teachings. As such, it is respectfully requested that the Examiner reconsider the arguments, which are presented in summary below.

Ashida, Yuzusu, and Naruse are all directed toward a rewritable disk using a phase change record mark, but do not provide the elements of the claimed features deficient in Nomura I and Nomura II, and there is insufficient evidence of a motivation to make the combination.

Ashida discloses a phase change optical recording medium (para. [0001]). The problems addressed by Ashida involve unwanted erasure of neighboring data points due to dispersion of heat during the melting and recrystallization as well as various amounts of heat required depending on whether writing takes place on a previously written portion or a virgin portion of the phase change film (para. [0011] and [0012]). In other words, the disclosure of Ashida addresses improving a reflection factor based on phase change of the phase change film. Ashida does not mention nor suggest a ROM disk with pits, and does not suggest that the solution to preventing unwanted erasure would be useful in the context of a ROM disk.

Yuzusu similarly discloses recording and reading on a phase change optical recording medium (para. [0001]). Although Yuzusu mentions the super resolution technique applied to the ROM medium (para. [0004]), Yuzusu does not describe the technique further and instead concentrates on a seed layer in the phase change optical recording medium adjacent to a phase change optical recording layer. The seed layer consists of metal particles in a dielectric and which controls the crystal size in the phase change optical layer when the record mark is erased by melting the amorphous phase and recrystallizing (para. [0015]). By adjusting the amount of metal particles and dielectric, the proper thermal and optical properties can be obtained (para. [0017]). In this way Yuzusu discloses a method of eliminating noise from repeated writing and erasing (para. [0009] and [0006]). The method and the materials disclosed by Yuzusu do not suggest improving a method of reading a substrate with pits. Furthermore, there is no suggestion to combine materials selected for their thermal and crystal seed properties with the ROM disk of Nomura I.

Naruse also discloses a phase change optical record playback disk (para. [0010]). The layer of metal particles dispersed in the dielectric is carefully composed to achieve thermal

properties and light reflecting properties to heat the phase change record layer to cause melting and solidification as either amorphous phase (write) or crystalline phase (erase) (e.g., para. [0042], [0050], and [0052]). Naruse does not disclose or suggest combining the metal dispersed in the dielectric of the optical recording medium with a read only substrate having pits (para. [0054]). Thus, there is no suggestion to combine materials selected for their effect on phase change with the ROM disk of Nomura I.

Because the suggested combination does not disclose each and every element of the claim 1, and separately, as there is no suggestion to make the combination selected by the Examiner, the rejection is respectfully believed to be traversed. Claims 2-3 and 5-7 are deemed patentable due at least to their depending from claim 1.

Based on the foregoing, this rejection is respectfully requested to be withdrawn.

DOUBLE PATENTING:

The Examiner has rejected claims 1-3 and 5-7 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-32 of U.S. Patent 7,087,284 (formerly 10/944,421 (U.S. 2005/0079313)). Since claims 1-3 and 5-7 of the instant application have not yet been indicated as allowable, and as claims 8-14 have not been addressed, it is believed that any submission of a Terminal Disclaimer or arguments as to the non-obvious nature of the claims would be premature. MPEP 804(I)(B). As such, it is respectfully requested that the applicant be allowed to address any obviousness-type double patenting issues remaining once the rejection of the claims under 35 U.S.C. §103 is resolved and that the rejection be reconsidered in light of the claims presented above.

CONCLUSION:

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited. Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

Serial No. 10/671,865

Docket No. 1793.1035

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 503333.

Respectfully submitted,

STEIN, MCEWEN & BUI, LLP

Date: Jan. 22, 2007

By: 
James G. McEwen
Registration No. 41,983

1400 Eye St., NW
Suite 300
Washington, D.C. 20005
Telephone: (202) 216-9505
Facsimile: (202) 216-9510